UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,080	12/12/2003	Kenneth J. Ouimet	2297-020	8981

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Lowell W. Gresham
Meschkow & Gresham, PLC
Suite 409
5727 North Seventh Street
Phoenix, AZ 85014

EXAMINER
PARKER, BRANDI P

ART UNIT	PAPER NUMBER
4137	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)
Office Action Summary		10/735,080	OUIMET, KENNETH J.
		Examiner	Art Unit	
		BRANDI P. PARKER	4137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2003*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-23* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *12/12/2003, 11/17/2005,* .

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgements

1.   Claims 1-23 are pending in this Office Action.

2.   This Office Action is given Paper No. 10735080 for reference purposes only.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claims 1-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. If the "acts" of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. *Gottschalk v. Benson*, 409 U.S. 63, 71 - 72, 175 USPQ 673, 676 1972). Thus, a process consisting solely of mathematical operations or algorithms, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process. Because claims 1-23 consist solely of mathematical operations or algorithms without some claimed practical application, they are directed towards a non-statutory process and are therefore rejected. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 15 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated

over Elad et al (US 5195172).

4.   With respect to **claim 1**, Elad teaches:

a.   generating a planning function describing said planning model, said

planning function depending upon said set of decision variables (column/line

37/5-9);

b.   separating said planning function into independent planning functions,

each of said independent planning functions depending upon different ones of

said set of decision variables (column/line 41/34-39);

c.   independently optimizing each of said independent planning functions to

obtain said decisions for said different ones of said set of decision variables

(column/line 12/27-35, 40/48-59); and

d.   presenting an outcome of said optimizing operation, said outcome

indicating said obtained decisions (column/line (40/54-59).

5.   As to **claim 15**, Elad teaches a method as claimed in claim 1 wherein said

presenting operation comprises providing said decisions for said different ones of said

set of decision variables that optimize said each of said independent planning functions

(column/line 12/27-35, 40/48-59);.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-11, 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Elad et al (US 5195172) in view of Ouimet (US 6308162).

6.   Regarding **claims 2-4 and 22**, Elad teaches a method as claimed in claim 1

wherein said planning function to be a non-linear or discontinuous function of at least

one of said decision variables (abstract). Elad does not explicitly teach a continuous

non-linear function as provided in claim 3. However, Express suggestion to substitute

one equivalent technique for another need not be present to render such substitution

obvious and claim 3 is therefore rejected. *In re Fout*, 213 USPQ 532 (CCPA 1982), *In*

re Siebentritt, 152 USPQ 618 (CCPA 1967).

7.   As to **claim 5**, Elad teaches said planning model incorporates a primary objective

and a strategic objective of said enterprise; said method further comprises:

e.   defining a primary objective function describing said primary objective,

said primary objective function including said set of decision variables

(column/line 36/41-46);

Elad does not directly teach including a strategic objective function in to the

planning model.   However, Ouimet teaches defining a strategic objective function

describing said strategic objective, said strategic objective function including a subset of

said decision variables; and said generating operation incorporates said primary

objective function and said strategic objective function within said planning function

(column/line 4/7-8). It would have been obvious to one having ordinary skill in the art to

modify Elad with Ouimet because both arts involve optimizing functions with respect to

decision variables and constraints.

8.   With respect to **claim 6**, Ouimet teaches specifying a plurality of values for a

strategic factor, said strategic factor being configured to adjust an influence that said

strategic objective has on said planning model; and coupling said strategic objective

function with said strategic factor (column/line 5/30-42, 7/16-25).

9.   Regarding **claim 7**, Ouimet teaches wherein said independently optimizing

operation optimizes said independent planning functions for each of said values of said

strategic factor (abstract, column/line 2/37-42).

10.   As to **claim 8, 9 and 20**, Elad teaches the capability of having multiple objective

functions and strategic factors present in the optimization analysis (column/line 37/5-14,

37-46). The addition of factor the second function and strategic is a mere duplication of the claimed method in the aforementioned claims. According to *In re Harza*, mere duplication of parts has no patentable significance unless new and unexpected results are produced. 214 USPQ 378 (CCPA 1960).

11.   Regarding **claim 10 and 18**, Ouimet teaches selecting an optimization algorithm from a group comprising a closed form solution, a one dimensional maximization of continuous decision variables, a one dimensional maximization of discrete variables, and a general multidimensional method (column/line 7/40-45, 62-67).

12.   As to **claims 11,** Ouimet teaches a method as claimed in claim 1 wherein said planning model incorporates a primary objective of said enterprise, and said method further comprises:

f.   defining a primary objective function describing said primary objective, said primary objective function including said set of decision variables, and said generating operation incorporating said primary objective function within said planning function (column/line 2/6-8);

g.   determining a coupling between said decision variables in said primary objective function (column/line 2/8-10);

h.   introducing an embedded constraint into said primary objective function (column/line 2/15-27); and

i.   following said introducing operation, performing said independently optimizing operation to optimize said primary objective function while concurrently satisfying said embedded constraint (column/line 2/37-42).

Ouiment does not explicitly teach that the objective functions and respective decision variables can be independently optimized.   On the other hand, Elad teaches that the respective objective functions and constraints can be optimized independently or together (column/line 41/34-39).

13.   With respect to **claim 16**, Ouimet teaches wherein said presenting operation comprises providing a plurality of scenario points, each of said plurality of scenario points being associated with said decisions for said decision variables that optimize said each of said independent planning functions (column/line 4/43-49).

14.   **Claim 17 and 21** combine claims 1 and 5 and places the executing instructions on a computer-readable storage medium. Therefore, claim 17 is rejected on the same rationale as claims 1 and 5 as provided above.

15.   **Claim 19** combine claims 6 and 7 and places the executing instructions on a computer-readable storage medium.   Therefore, claim 19 is rejected on the same rationale as claims 6 and 7 as provided above.

Claims 12-14 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Elad and Ouimet in further view of Dietrich et al (US 5630070)

16.   With respect to **claims 12-14 and 23**, Ouimet and Elad teaches the method as

claimed in claim 11.   Ouimet and Elad do not explicitly teach the introduction of

additional constraint factors or variables for the constraint function.   However, Dietrich

teaches introducing additional decision variables that correspond to different products

that are being tracked in a method for inventory system optimization (column/line 10/66-

11/3).   It would have been obvious to one having ordinary skill in the art to modify

Ouimet and Elad with the optimization methods provided in Dietrich because Dietrich

involves the optimization of resource planning models.

Conclusion

17.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Nonaka et al (US 5195026), Baseman et al (6671673) and

Ouimet (6078893).

18.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to BRANDI P. PARKER whose telephone number is (571)

272-9796. The examiner can normally be reached on Mon-Thurs. 8-4pm.

19.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Calvin L. Hewitt II can be reached on (571) 272-6709.   The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

20.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.   Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Calvin L Hewitt II/
Supervisory Patent Examiner, Art Unit 4137